

The Application of Sacral
Resection to Gynecological
Work.

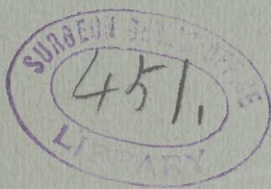
BY

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THE APPLICATION OF SACRAL RESECTION TO GYNECOLOGICAL WORK.

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THE removal of the uterus, *per vaginam*, has become a well-established operation—its application to suitable cases is denied by but few. No one who has undertaken to perform the operation, however, has failed to recognize the difficulty of the procedure, unless the vagina is very large, and the appendages comparatively free from adhesions or enlargements. The opposite of these conditions add greatly to the difficulty of the operation, and it is rendered almost impossible if the fundus of the uterus has attained to considerable size, if the ovaries and tubes are in a state of disease producing adhesions or enlargements, the formation of cysts, or the presence of pus-sacs.

The operation through the abdominal walls brings us to the uterus at a point more remote, and renders the operation an exceedingly difficult one, in which the broad ligaments containing the pelvic organs must be ligated at a distance, with but little opportunity to use the sight. The danger of soiling the peritoneal cavity with diseased tissue of the cervix is greatly increased, and this operation has necessarily from its difficulty resulted in a large mortality—a mortality so marked as to discourage both operator and patient from resorting to a measure of so much uncertainty. Under such circumstances it seems to me that we are greatly indebted to anyone who proposes and demonstrates a measure by which diseased conditions of so great gravity can be attacked with greater safety and readiness. From a limited experience I am led to believe there is no procedure that affords so great facility for treating

such obstacles as the method introduced and advocated by Kraske in 1885. It is true that he operated with a view to reach diseased conditions of the rectum that are not easily amenable to other plans of operative procedure. But it did not require a great while to demonstrate the application of this procedure to other diseased conditions within the pelvis. It enables us to reach the organs at the shortest distance, and the operator can bring the sense of sight as well as that of touch into use. The uterine and ovarian arteries, and the position and relations of the ureters, is readily determined, and the ovaries and tubes removed as well as the uterus. The latter is a consideration of no little importance when these organs are in a diseased condition, or when there is a possibility of an extension of malignant disease from the cavity of the uterus to the tubes, or when the tubes have been the seat of previous disease and are filled with irritating secretions, the escape of which would result in an attack of pelvic peritonitis to complicate the convalescence of the patient after an operation for the removal of the uterus.

In doing the operation Kraske places the patient in the lithotomy position, makes a bow-shaped incision from the left sacro-iliac synchondrosis to the right side of the coccyx, terminating at its point. The tissues are cut through, the bone bared, the coccyx enucleated, and the muscles and ligaments cut off from the left side of the sacrum, when, with chain-saw or bone-pliers, the left ala of the sacrum is removed, beginning below the third posterior sacral foramen; and in removal of the organs within the pelvis he advises that the rectum should be pushed to the right side. In consideration of the application of this operation to the removal of a diseased uterus and its appendages, I was led by the consideration of the fact that the rectum is normally situated a little to the left side, to agree with Herzfeld, that the rectum could more readily be pushed to the left, offering a greater exposure of the uterus, with less rectal displacement. In performing the operation thus, I place the patient upon the left side, in the Sims position, and make an incision from the right sacro-iliac synchondrosis, in a curved line to the left of the coccyx, terminating a little beyond its point. (Fig. 1.) The tissues are then dissected off, the

FIG. 1.

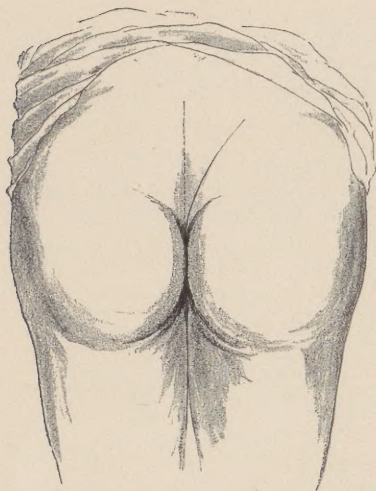


FIG. 2.

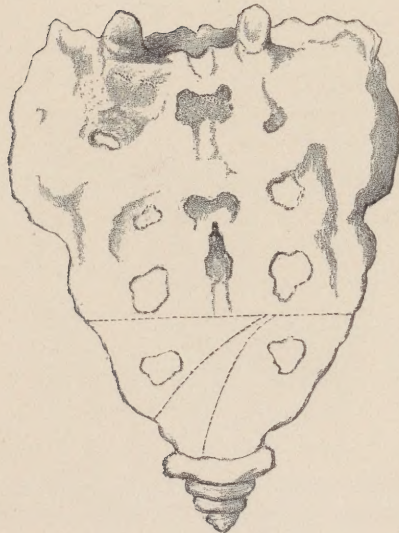


FIG. 3.

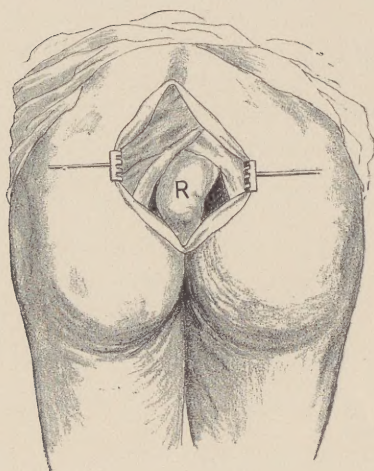
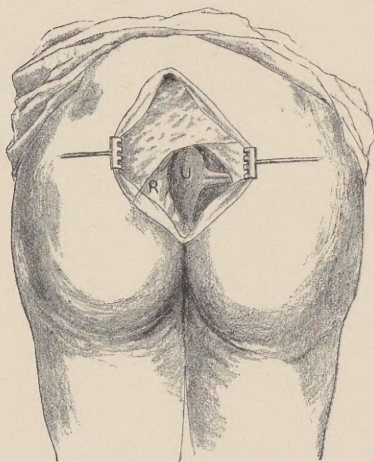


FIG. 4.



coccyx separated on each side, pushed forward and upward by pressure upon its point, and the posterior common ligament cut through at its sacral articulation. In this way the coccyx is easily separated and the enucleation readily completed. The rectum is then pushed off from the anterior surface of the sacrum, the muscles and the sciatic ligaments cut, the right ala of the bone cut through, from just below the third sacral foramen, with a bone-saw. (Figs. 2 and 3.) Any bleeding taking place at this time is readily arrested by sponge pressure. The rectum is pushed to the left, the vessels entering it from the right are ligated with double ligatures, and we find ourselves directly upon the peritoneum at the side of the rectum. This is cut through with scissors, making an incision close to the margin of the rectum, when the posterior surface of the uterus is exposed. A large flat sponge is now placed in the cavity above the uterus, in this way holding back the intestines and keeping the abdominal cavity from being soiled with blood. In an ordinary case the broad ligament on either side of the uterus, containing the tubes and ovaries, may be seized with a pair of hemostatic forceps and brought up into the wound by gentle traction. (Fig. 4.) In a case where the tubes and ovaries are much enlarged and cystic, as in one recently under observation, it may be necessary to be content with simply dragging up one side, ligating the vessels, cutting the tissues off in sections, then raising the other and ligating it in a similar manner.

In this way we find the uterus loosened from the ligaments down to the junction of the peritoneum. In front the peritoneum may be dissected off with the bladder until the vagina is reached; and in like manner posteriorly, when we have a portion of the broad ligament, which contains the uterine artery, and in close proximity to the uterus, the ureters. This portion can be readily ligated in sections so near to the uterus as to insure the ureters from being either injured or compressed. As the tissues are cut through the vessels can be seen, and if they have not been firmly secured by the ligatures, can be again caught up by forceps and ligated. Being sure that the bleeding is arrested, the sponge is removed from the abdominal cavity and the parts thoroughly cleansed, either

by irrigation or sponging, when the peritoneal surfaces may be brought together antero-posteriorly over the vagina, thus preventing the danger of a prolapse of the intestines and facilitating the more rapid union of the parts without the danger of the formation of disagreeable adhesions. In a similar manner the opening into the peritoneal cavity alongside of the rectum may be closed, leaving an opening, if desirable, to facilitate drainage. The remaining cavity is packed with iodoform gauze and the wound closed with sutures. The operation may seem to be a very radical one, and it may be questioned whether the patient does not undergo injury too grave by the removal of the coccyx and the resection of the sacrum to justify this operation for the removal of an organ which may be accomplished in other ways.

Indeed, I should not advise this method of procedure where the uterus and appendages can be readily removed through the vagina; but in those cases in which the uterus is large, and the fundus of the organ fills up the cavity of the pelvis, so that it is difficult to pass alongside of it in order to properly place a clamp to compress the ligament, or in cases in which the ovaries and tubes are the seat of prior disease and are more or less adherent in the pelvis, this method of procedure affords a plan by which the offending organs can be readily removed.

Is the tissue sacrificed in the removal of the sacrum and its subsequent influence upon the health and comfort of the patient of sufficient importance to justify us in refusing to resort to such an operation? Is the gravity of the case so greatly increased by the procedure as to render the operation one which for the safety of the individual should be declined? In answer to the first question we have but to study the anatomy of the parts. It should be remembered that the spinal canal terminates in the lumbar vertebræ, and is continued in the sacral canal as the *filum terminale*. With the sacral appendages, the *filum terminale* contains a prolongation of the *dura mater*, but does not communicate with the spinal canal. The posterior sacral foramina give exit to nerves which supply the muscles of the back and buttock, and are consequently of minor importance. The anterior sacral foramina give exit to the first, second, and third sacral

nerves, which unite with the last lumbar to form a sacral plexus. The fourth and fifth nerves, the latter passing out between the sacrum and the coccyx, are distributed to the muscular tissues of the rectum and bladder—hence injury to these nerves affects, to a certain degree, the action of the latter, and it is important for this reason, in performing the operation, that the resection of the sacrum should not be a transverse one, but simply from one ala, so that the nerves thus injured are compensated for by those on the uninjured side. As the third sacral nerve unites with those above to form the small plexus, the importance of limiting the resection to a point below this foramen can be readily recognized. The vessels of the rectum are readily seen and can be ligated without difficulty, and the ease with which the vessels of the broad ligaments can be seen and secured, in our judgment greatly overbalances the disadvantages that may result from injury to the sacral tissues. The line of the incision is shown in Fig. 1.

As to the dangers of this operation, it has not as yet been sufficiently often performed to enable us to determine definitely its mortality. Hochenegg has reported thirty-nine cases, with thirty-one recoveries and eight fatal cases. These operations, however, were done upon the rectum for malignant disease, and the fatal cases were those in which the operation was done for the removal of the middle portion of the rectum, where the peritoneum was opened, and subsequently underwent infection from extravasation of fecal matter. The mortality is given as 20.5 per cent. in the class of cases named, but where the rectum is uninjured the danger of fecal infection is removed, and there seems no reason why the mortality should be greater than in the performance of vaginal hysterectomy.

Two cases in which I have had an opportunity to test the efficacy of the procedure were both attended with marked difficulty—one being the resection of the rectum, with the removal of the uterus, and the other the removal of a large uterus, in which there was marked disease of both ovaries and tubes.

CASE I.—The patient was a woman forty-two years of age, married, the mother of three children, and had had four miscarriages. She was sent to me by Dr. Henry Fisher, under whose care she had been for a few weeks. She began to suffer a year before coming under his observation from pelvic trouble, attended with a frequent desire to evacuate the bowels, violent tenesmus, and discharge of blood. She had been treated for dysentery. For the last few months the trouble had been very greatly exaggerated and attended with pain in the pelvis. Evacuation of the bowels was very difficult, and the discharges were frequently entirely composed of blood. Upon examination, per vaginam, a mass could be felt posterior to the uterus, that seemed to be continuous with it, and at the angle between the cervix and this mass, there was induration and ulceration in the vagina. The cervix was comparatively healthy. Introducing the finger into the rectum—which was hard, dense, and had near its centre an opening into which the point of the finger could be pushed—it was at first supposed that we had to deal with cancer of the body of a retroflexed uterus, in which the disease had extended to the rectum, making it adherent to the uterus. More careful examination under an anesthetic, however, disclosed the fact that the mass which could be felt through the rectum was a partial invagination of a carcinomatous ring of the bowel, which had been displaced downward by the violent tenesmic efforts at stool. This involved the entire circumference of the rectum, and extended through its anterior wall into the vagina and in close proximity to the cervix. By pushing the finger through the stricture it was discovered that nearly three inches of the rectum were involved, leaving the lower inch and a half comparatively healthy. The uterus was found situated in its normal position, adherent by the cervix to the cancerous mass. With the patient suffering from such a condition it became a serious question as to what should be our method of procedure. To permit it to continue was to doom her to a speedy and painful termination of life. It is true that we could resort to colotomy, and in this way enable her to evacuate the bowels and live in comparative comfort for some length of time, but it seemed preferable to remove the diseased tissues and make an attempt at a radical cure. This would, of course, require the removal of a section of the rectum, a portion of the vagina, and also the uterus. Such an operation could only be accomplished and an effort made at the restoration of the calibre of the bowel by the plan of procedure we have now under consideration. The patient preferred to accept the radical operation after the character of both operations had been explained to her.

On the 19th of May, of the present year, in the Medico-Chirurgical Hospital of Philadelphia, in the presence of some seventy-five physicians, the patient was subjected to the operation. She was placed on her left side, and the resection of the sacrum made on the same side. The rectum was pushed off from its anterior surface, the gut then encircled below by a ligature, which was tied close to the malignant mass and cut through, the lower portion of the gut having previously been thoroughly cleansed and packed with iodoform gauze. (Fig. 5.) The rectal mass was now raised up and an opening made into the vagina, the uterus dragged down, its broad ligament ligated, and the

organ separated. Then a ligature was thrown around the rectum above the malignant mass, and the gut itself opened and packed with iodoform gauze above, in order to prevent extravasation of fecal matter, and the diseased tissues removed. The peritoneum was now cut about the rectum, permitting the sigmoid flexure to be straightened out, and the two ends of the divided rectum were sutured together, thus restoring the calibre of the gut. The cavity posteriorly was packed with iodoform gauze and a tent of the gauze passed into the rectum above the sutured portion to act as a drain and to permit the gas to escape. The wound posteriorly was closed with sutures, dressed with iodoform gauze held in place by adhesive straps, and a "T" bandage.

During the performance of the operation the patient became greatly exhausted, suffering from profound shock, and during the greater portion of the time was pulseless. She was given before the operation was completed three-fourths of a grain of strychnine, hypodermically, and within the twelve hours following the operation two grains of the same. She rallied from the operation, and on the following day was pretty comfortable. The third day after the operation, upon examination of the rectum, it was found that some hard fecal masses had been pushed down into the canal. These were carefully removed, and the patient given a saline with a view to unloading the accumulations. In this, however, we found that the accumulation was greater than had been expected, and it was under the influence of its pressure that the lower portion of the gut was pushed off, permitting the fecal matter to pack into the wound. It was consequently necessary to reopen the wound and wash out this extravasation, and treat the wound subsequently as an open one.

Four weeks after the operation had been performed the patient was again placed under the influence of an anesthetic, the ends of the gut dissected up and resutured, in this way restoring its calibre. Following this operation the union took place with the exception of one point at which there was a fistulous opening, through which fluid feces would pass. In spite, however, of the discomfort of an open wound at this time, and of the subsequent process of healing by granulation, which was necessitated by the open wound, the patient expresses herself as being far more comfortable than before the operation was performed, when she had to be constantly straining to secure an evacuation of the bowels. She has gained in health and strength, and is able to be about her house, but we do not feel very hopeful of a permanent cure.

In this patient the wiser plan of procedure would have been to have preceded the operation with a preliminary colotomy, through which the immense accumulations of fecal matter could have been evacuated, and thus the pressure upon the newly united surfaces have been avoided. The opening into the colon could have been very readily sutured after the calibre of the gut had been permanently restored.

Upon examination of the patient to-day (September 15, 1891) the rectum was found perfectly healthy with the exception of a slight fistula upon one side. There was some induration posterior to the upper part of the vagina, which I fear is due to our inability to completely remove the malignant disease involving the lateral surface of the vagina. The patient expresses herself as very much gratified with the result of the operation, as she no longer experiences any difficulty in securing the evacuation of the bowels.

CASE II.—The second patient was a woman thirty years of age; had been married four years, and had never been pregnant. She had suffered for the last year from severe pain in the side, extending down the limb and through the hip. Suffers from bleeding after coition or violent exercise. Upon examination the uterus was found presenting a roughened protuberance, the surface of which was found to be dragged down and bleeding at the slightest pressure. A mass could be felt posterior to the uterus, which was evidently a diseased tube. Upon the 8th of July the patient was subjected to an operation for its removal. As it was evident that the fundus of the uterus was large, that the tubes and ovaries were affected and adherent, that the vagina was small, we deemed it wise to resort to the operation of sacral resection. The incision was made upon the right side of the sacrum, over the coccyx, to the left side. The coccyx was enucleated and the right side of the sacrum removed. The rectum was pushed to the left, the peritoneum opened, and the uterus readily reached. After introducing a large sponge, the broad ligament on one side was grasped with a pair of forceps, gently raised up, and ligated in sections down to one-half its insertion into the uterus. The other side was then raised up and ligated in a similar manner. The peritoneum was then separated anteriorly and posteriorly, the vagina opened behind and ligated in sections. After the removal of the uterus and sponge in the abdomen and cleansing of the cavity, the peritoneum covering the bladder and that in front of the rectum was brought together, shutting off the vagina from the peritoneal cavity. Then the incision in the posterior peritoneum was also closed, some iodoform gauze introduced into the opening of the wound over the rectum, and the wound sutured.

The operation was attended by some shock, so that three hypodermic injections of strychnine were given—the first one-twentieth of a grain and the others one-sixtieth each. Her temperature after the operation was 97°. The patient experienced no special inconvenience or distress, not near so much as is usually experienced in abdominal operations. Highest temperature reached was at 7 P.M. on the sixth day, which was 101°. With this exception the temperature was not over 100 $\frac{2}{3}$ °. I was obliged to leave the city before the wound had completely healed. Upon my return, after a five weeks' trip, I found the wound healed and showing a very slight cicatrix. There is some depression over the point at which the bone was excised, but she has experienced no inconvenience in locomotion. For a time the part was tender on sitting down. This, however, no longer occasions her any discomfort. (Fig. 6.)

FIG. 5.

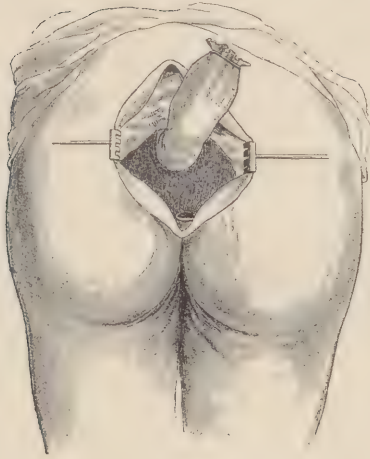
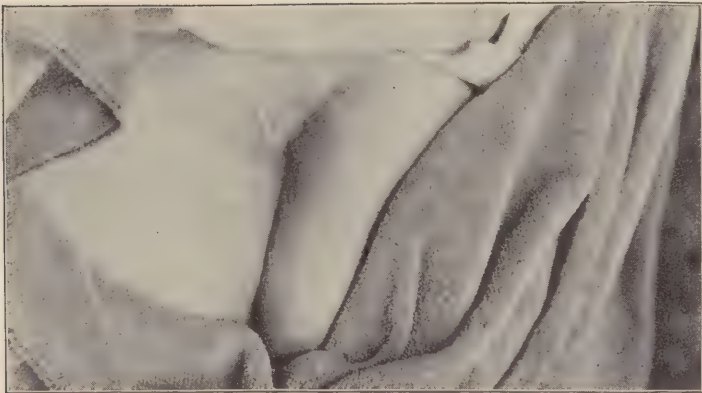


FIG. 6.



It is true that two cases are not sufficient to base any very definite conclusions upon, but these cases taken in conjunction with some thirty-nine others reported by Hochenegg, illustrate that the operation is not one that is attended with a serious mortality, nor one that causes the patient special inconvenience subsequent to convalescence. Owing to the resection of the bone, the convalescence must be a little more tedious than where the incision is made in the soft tissues. This may be thought to be an objection, but when we consider the marked advantage that is given by being able to use the sight in the removal of the affected organs, where a bleeding vessel may be readily seen and seized, and hemorrhage in this way certainly controlled, it seems to us in these more difficult cases a compensation for the necessary longer convalescence.

DISCUSSION.

DR. C. A. L. REED, of Cincinnati.—Mr. President: This operation attracted my attention upon its first publication. Like many of the other operations, particularly those that involve the invasion of structures that we have not been in the habit of treating surgically, it appears to be more formidable than perhaps it really is. In an effort to treat malignant disease involving the middle segment of the rectum, this operation would be demanded and would be justifiable. I do not comprehend the especial utility of the operation for total extirpation of the uterus for malignant disease. It appears to be much more formidable than the technique with which we have become familiar, and with which we have been able to secure at least very satisfactory primary results. We are justified, perhaps, in doing almost anything for the relief of malignant cases, particularly those involving important tissues, such as the rectum and uterus; but if we can bring the maximum of relief with the minimum of risk, that is the line we ought to follow. There is one question which cannot be answered as yet from any ascertained results, and that is with reference to the remote influence of this operation. The removal of the coccyx and the removal of the lower segments of the sacrum must of necessity deprive the lower portion of the pelvis of an important basis of support; and what is the condition of our patients with regard to the support of the superimposed viscera following the operation after a considerable length of time? Dr. Montgomery's cases are yet too recent to afford an answer to this question. While the primary results have been

very good, it would have been vastly better to have relieved his patient by colotomy; but if this operation will bring the same amount of relief with as little risk of primary mortality, and at the same time insure the patient voluntary control of her fecal discharge, by all manner of means let us encourage it.

DR. HENRY O. MARCY, of Boston.—I rise to emphasize one point. I mention it because I have lost two patients where I think the result might have been entirely different if I had done colotomy at first. One was in cancer of the rectum. When we recollect that the intestine is very fully distended with gases and feces, the pressure upon the sutures is something enormous, and I know, if I again operate in this condition of things, I shall first advise the doing of primary colotomy; that gives us the all-important factor of surgical rest of the parts operated upon, with a far better promise of success. I am obliged to Dr. Montgomery for this paper, and I want to thank him for instructing me on this important subject.

DR. HORACE T. HANKS, of New York.—It seems to me that this operation, which has been described by Dr. Montgomery, and which we really know but little about in practical experience in New York, since it has been performed here only about twelve times, can be recommended in most cases of chronic pelvic abscess, where a rupture has taken place into either the vagina or rectum, and where the tissues underneath the broad ligaments are honeycombed. I was interested in Dr. Montgomery's admirable paper, from the fact that I have had one or two cases where I would have succeeded better, I believe, in doing this operation than in doing the one I attempted. After cutting through the abdominal wall into the true pelvis, it is a difficult matter to find out the exact condition, and a far more difficult matter to remove all diseased organs and tissues. We can very quickly get a view of the parts deep down, but we cannot manipulate and enucleate them as well. In this new operation we can do this more readily and thoroughly. I shall certainly attempt it in this class of cases in the future.

DR. W. H. WATHEN, of Louisville.—I congratulate Dr. Montgomery upon his courage, his tact, and his excellent technique in doing the operations that he has reported. It is doubtful in most instances of cancer of the rectum, if any operation is likely to materially prolong the life of the patient. But in view of the fact that these patients cannot, if left alone, live long, I think we are justified in resorting to radical, or even dangerous, means to a degree that we are not ordinarily justified in using. For that reason I am in accord

with Dr. Montgomery and others who believe in resection of a portion of the rectum in malignant disease. I think Dr. Montgomery's experience has demonstrated the importance of giving an exit to the fecal matter and gases by colotomy before the radical operation. Certainly it simplifies matters in after-treatment. I do not know that anyone in this country has any experience, except Dr. Montgomery, in the removal of a cancerous uterus and ovary and tubes after the fashion that he has described, and I am inclined to the opinion that we will not generally agree with him in his belief as to the advantage of the operation or of the benefits that are to be derived from it. Even the total extirpation of the uterus by the ordinary method of vaginal hysterectomy is by many of the very best operators regarded as of doubtful propriety—some surgeons declining to perform the operation. Certainly it is an operation that is never indicated if the disease has extended outside the uterus into the surrounding tissues, because of the difficulty of removing the structures with the uterus, and the great danger attending the operation; but more especially because of the fact that invariably in a very short time the disease will return. Vaginal hysterectomy for malignant disease is not a justifiable operation unless we can remove every portion of the disease, where there is no malignant infiltration of the tissues: the uterus in such cases can be removed *per vagina*. There are very few cases, if any, in which the operation is indicated or would give any hope of relief, where it cannot be done through the vagina. In conclusion, I again wish to congratulate Dr. Montgomery upon his courage, his skill, and surgical technique.

DR. A. VANDER VEER, of Albany.—It seems to me that Dr. Montgomery has really given us a very valuable paper. I think it will occur to all of us that the profession now—in the small village, in the strictly country town, where the country practitioner comes in contact with the patient first—the profession, I say, is becoming educated to that point where they have confidence from the report of cases that vaginal hysterectomy is a justifiable operation, and one that is resorted to with excellent effects, permanent recoveries occurring in so many instances. But the operator is desirous of securing these cases early. Therefore the country practitioner is sending his cases sooner than was done two or three years ago. Now I wish to make this point in reference to the Doctor's paper: I would not be willing to abandon vaginal hysterectomy for removal of the uterus and ovaries. I believe the technique of vaginal hysterectomy is so perfect that it becomes one of the most brilliant operations we have to perform at the present time,

and the results are satisfactory. When this operation which Dr. Montgomery has just called our attention to was first published (I think my mind was first called to it in 1886), I said to myself, "If I had known of this operation two or three years ago I might have made some of my patients very much more comfortable, and perhaps saved some lives." I had then done a number of operations for resection of the rectum, and in three cases with good results. I had two cases come to me and I said frankly, "The disease is so high up I cannot reach it." It was a great disappointment to them. I will say here in regard to the operation of colotomy that I never had a person who was thoroughly satisfied with the result of the operation. All were dissatisfied with the fecal discharge. But in the five or six cases that I call to mind in which I operated for the removal of the lower segment of the rectum, it mattered not if there was some leakage, some trouble in keeping a pad there and receiving the feces, they always said, "Doctor, it comes out at the right place. It feels more natural." They are better satisfied to have it come there than in the inguinal or lumbar region. If we have these cases of cancer of the rectum that are not amenable to ordinary operation through the perineum, then I believe this operation is *the* operation for the removal of cancerous rectum high up; I think by all means we should adopt this operation. I am sure in some cases I could have made use of this, and the next case where the disease presents three or four inches up the pelvis, this is the operation I shall do. In limiting the operation to the class of cases mentioned in his paper Dr. Montgomery has shown his usual good judgment and great operative skill.

DR. AP MORGAN VANCE, of Louisville (by invitation).—I thank the Chairman, indeed, for the compliment of being called upon. One point impresses me regarding primary colotomy as advocated by Dr. Marcy: the performance of primary colotomy would seem to bring about a difficulty from the fact that if a good deal of the gut was to be removed—and the more removed, if there is a cancer, the better—after anchoring it at the point of ordinary colotomy, we might have difficulty in bringing it down to get approximation. I am not sure, however, that the tension from that cause would be greater than from distention. It strikes me that it is a pretty ugly operation, and outside of very skilled hands the patient would be in very great jeopardy. I would like to make a criticism after the plan of one that was made upon me once. I made a statement that I would as soon break a man's thigh as cut his tendo Achillis. The criticism was that for a man accustomed to breaking thighs that might be so, but not for a man

unfamiliar with such work. It strikes me that a man without hospital surroundings and the best of everything to help him out, would run a great deal of risk in doing this operation. It seems to me in the second case that the operation could have been done through the abdomen with less danger to the patient than by the method described.

DR. MONTGOMERY, of Philadelphia (closing the discussion).—I am very grateful, indeed, to the Fellows and guests for their very kind consideration of this new subject. I can appreciate the prejudice everyone has to the introduction and to the performance of an operation outside of the usual order. We accustom ourselves to reaching organs and to doing things in certain ways, and as soon as anyone attempts to get out of the ordinary ruts and into a new groove we think he is, as theologians would say, not orthodox. This is very much our course in the medical line. We object to things simply because they do not strike us favorably from the method and manner in which we have been performing operations before. But when you consider the fact, if you wish to reach the uterus from any portion of the body, the most direct route to it is through the backbone. When you attempt to reach the uterus from above, you come down upon its fundus. You have the uterus low down in a small, narrow cavity into which you have difficulty in seeing, and then you have difficulty in reaching it on account of the rigidity of the abdominal walls, and the fact that you can make but a small opening; but if you make your incision posteriorly, resecting the sacrum, cutting off the sciatic ligaments, you have a good opening into which you can see, and have the uterus at close touch. By this method you reach the vessels and ligate them in sight. You can displace the uterus and see every step in the procedure, which cannot be done by any other method of operation. Now you will remember that I distinctly said in my paper that I did not favor the removal of the uterus by this method when it could readily be done through the vagina; that it was the exceptional cases in which I would recommend the resection of the sacrum to reach the uterus. The exceptional cases were those in which there had been malignant diseases of the uterus, secondary to diseased conditions of the tubes and ovaries. We had in the second case I have given a woman who, as the result of indiscretion in early life, was suffering from tubal and ovarian disease. These tubes and ovaries were situated behind the uterus, filling up the posterior cul-de-sac, and were firmly adherent. You recognize that to operate on this patient and leave portions of this tubal structure remaining, was to endanger her convalescence by the liability of secondary peritonitis developing.

You have had, through a narrow undilated vagina, great difficulty in reaching the uterus and in ligating the vessels sufficiently high up to remove every vestige of the tube and ovary. For this reason, then, in looking over this case and studying it carefully, I decided to take the sacral resection as the favorable method of procedure. Now, with regard to the objection that has been made to the removal of a portion of the sacrum and the coccyx, that you are removing a portion of the structure of the pelvis, its support and the lower support, remember that when the patient is in an erect position the sacrum is on the upper plane of the pelvis. The pressure comes on the pubes and in the line of the vagina, not on the coccyx and sacrum. Remember, also, that although the ligaments are cut through in suturing the parts, you bring back and restore to a certain degree the ligaments and muscles, and you have a muscular floor strengthened by the cicatrix which was left at the place of union. In the patient under consideration there was, indeed, but a small portion of it that was noticeable. There was, of course, contraction and deepening of the furrow posteriorly above the anus where the portion of bone was removed. With regard to the operation itself when applied to the rectum in those cases in which the lower portion of the rectum is healthy, no other operation will equally well meet the indications; it is *the* operation, for the reason that we leave the sphincter. We must bring the rectum down and reestablish the gut and have a sphincter left by which the patient has complete and perfect control. How much more preferable than a colotomy; even with the best contrived pad you are at times unable to keep the patient from being soiled. Where it is necessary to amputate the rectum the operation may be done by removing the coccyx and a portion of the sacrum, bringing the gut up to the lower portion of the sacrum and there making an artificial anus. We leave the patient in a condition where a pad can be better worn and the parts much better protected from being soiled. You also have the patient feeling that the discharges can be better taken care of, and it is not necessary to assume an unnatural position in order to evacuate the bowels. I cannot see that a preliminary colotomy would be objectionable, even where a good portion of the rectum had to be removed, and the attachment of the intestine to the parietes would not interfere with the rectum being dragged down. The colon, in performing colotomy, could be dragged down to increase the amount of gut that is situated below in the abdomen, so that you would have it to work on subsequently; and then it should be remembered that considerable gain is obtained by straightening out the sigmoid flexure. I fully agree with Dr. Marcy, as I before mentioned in the paper, that

the preliminary colotomy, in such a case as the first operation, is the desirable thing to do; for by having the bowels completely unloaded you relieve your patient from the discomfort and poisonous effect of having large collections of fecal matter in the intestine, and she is consequently better able to stand the operation. Dr. Hanks has well said that in many of those cases of pelvic diseases where the ovaries and tubes are matted down in the posterior cul-de-sac, where the peritoneal cavity is shut off, in which drainage from above must be necessarily through the portion of the cavity so closed, we should respect Nature's attempt to bar the way to the entrance of these secretions into the lower cavity, and use a procedure like this, which will admit of the escape of the pus without soiling the entire peritoneal cavity by it. In many cases you would be able to break up the adhesions, remove the accumulated masses, and drain from the under surface of the sac, and so make sure that your drainage is perfect and thorough, much more effectively than could be done through the abdomen. Now regarding the other matters: as I have said, I can readily appreciate why gentlemen should hesitate to accept a method of this kind, so different from ordinary operations, and for myself I should not prefer the operation in those cases in which the uterus can be readily removed through the vagina. It is only where this operation seems preferable that I would suggest the removal of a portion of the bone in order to complete the operation.

